2. Safety Devices

※ We adapt 5 safety devices for users to use this wash machine safely.

1) Balancing device (ASSY-Main PCB)
   → When the laundry is out of balance, to prevent the noises and vibrations, the unbalance detecting sensor helps the laundry laid even and continue the dehydating process.

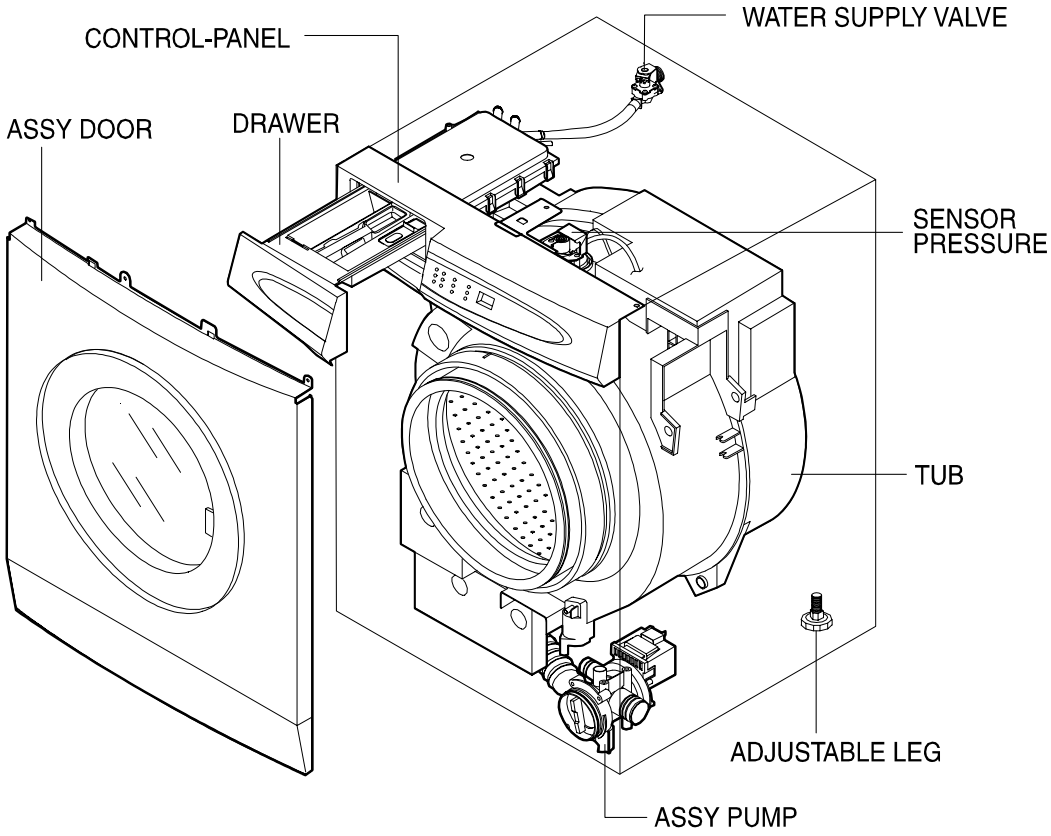
2) Anti-over water supply device
   → Because water supply value is broken, once water is supplied to the 2/3 level of the door, the water supplied is drained automatically, Over -flow error is displayed on the panel

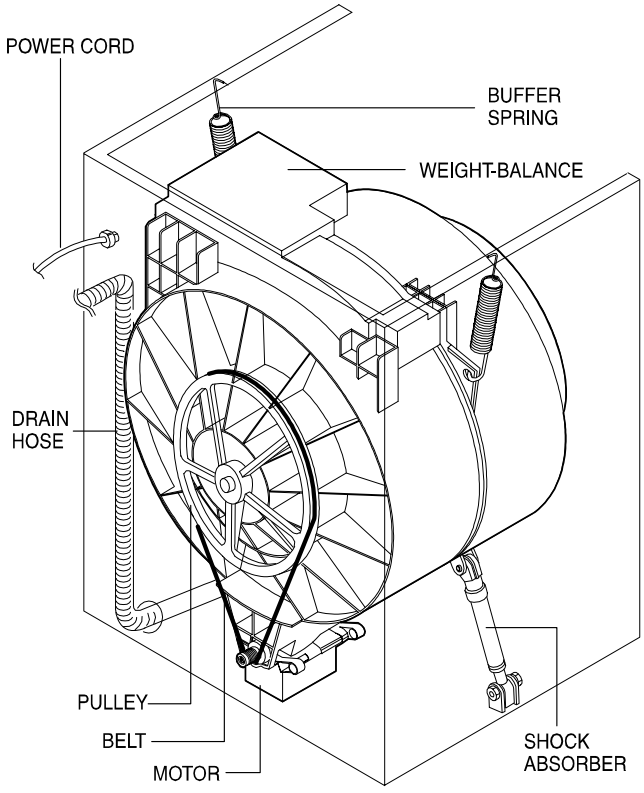
3) Temperature-regulating device(thermistor)
   → To prevent over-heating over the temperature setted up, THERMISTOR senses the temperature of the machine continuously and helps the wash machine to work at the temperature given by users.

4 Overheating- controlling system
   → Under the circumstances of THERMISTOR inferiority or abnormal condition, if wash-heater is overheated, automatically, assy -thermal fuse cuts off the power supply to protect the machine to keep it safe.

5) Delicate clothing safeguard function(ASSY-Main PCB)
   → To protect the clothings which is weak to high temperature, the wash machine senses the temperature inside the washing tub. if the temperature rises over 50℃ wool washing course and Delicate washing course display abnormal water temperature on the panel , after draining the water.

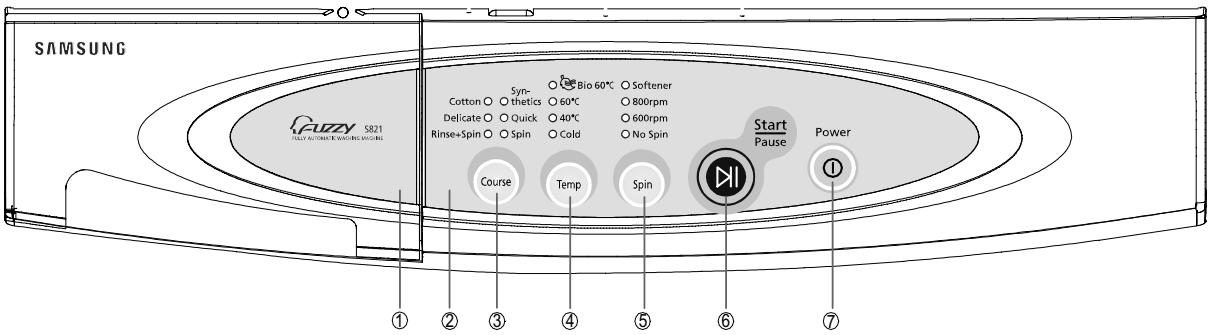
3. Overview of the Washing Machine



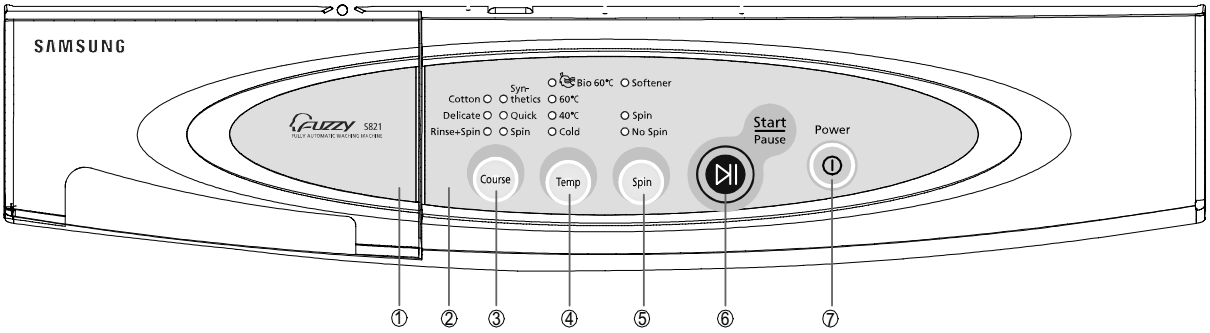


4. Overview of the control panel

S821



S621



1. Detergent dispenser

2. Display panel

Displays wash cycle and error messages by LED lamps.

3. Course button

Press the button repeatedly to select one of the six availabel wash program.

{Cotton.Synthetics.Delicates .Quick.Rinse+Spin.Spin.Cotton }.

4. Temperature selection button

Press the button repeatedly to cycle through the available water temperature options (cold, 40 °C , 60 °C and Bio 60 °C).

* Bio 60°C : To improve the Wash efficiency, heating during 30 min.

5. Spin selection button

Press the button repeatedly to cycle through the available spin speed options.

S821	no spin, 600, 800 rpm
S621	no spin, 600 rpm

6. Start/Pause button

Press to pause and restart programs.

7. ①(On/Off) button

Press once to turn the washing machine on, press again to turn the washing machine off. If the washing machine power is left on for longer than 10 minutes without any buttons being touched, the power automatically turns off.

5. Main function

1) Auto power S/W off function

- After power on, the auto power S/W off function automatically switches power off for you if you do not press selection button for 10 minutes
- After selecting the function, the auto power S/W off function automatically switches power off for you if you do not press start/pause button for 10 minutes
- After finishing the last function, the auto power S/W off function automatically switches power off for you if you do not re-select the course button or manual button

2) Door open function

- If door is open during the operating, all operating is halted, and door error message will be displayed and error melody will coming out
- Door open error can be cleared by colosing the door. the operating keeps going on

3) No spin function

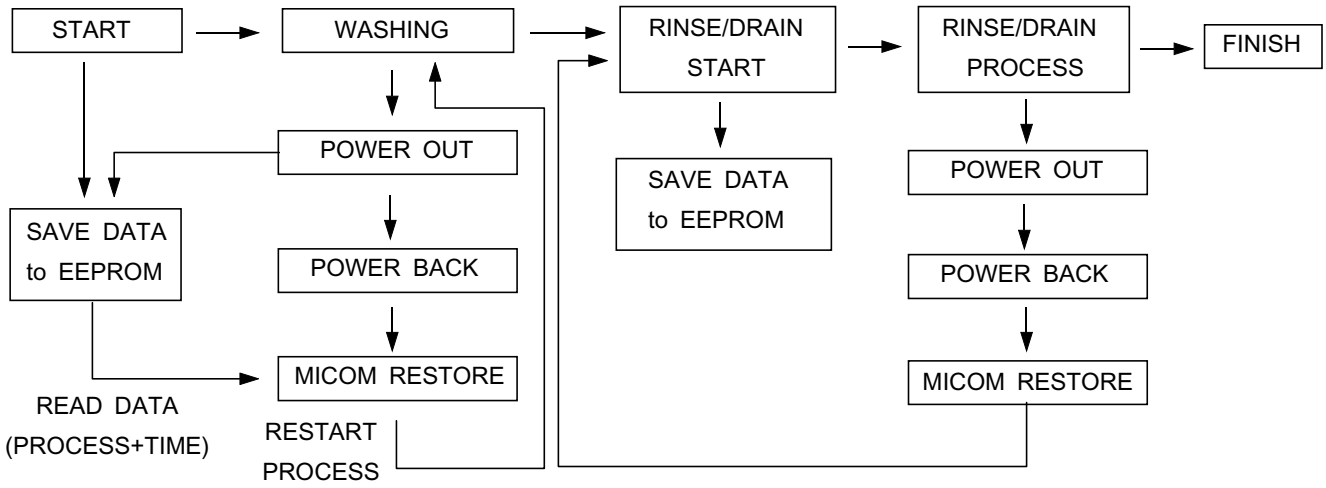
- If no spin function selected, the operating is finished after last rinse

5. Main function

4) Power-out compensation function

- If power is out on selected process, the process before power out is stored to EEPROM, once power is back the process before power out continues.
- When power is back, washing process starts from the process at the point of the power out, rinse/drain process starts from the initial process.

POWER-OUT COMPENSATION FUNCTION PROCESS



5) Water heater Error function

① This function starts working, when the heater works abnormally.
(this function begins sensing the heater 1 minutes later, after the heater operating)

② The value of the initial thermistor(A1) is compared with that of the thermistor(A2) in 2 minutes (Y=A2-A1)
- For 10 minutes, the variance of temperature(Y) is less than 2℃ "course led 6ea on 40℃/60℃ led on" message is displayed on the panel.

③ The value of the initial thermistor(A1) is compared with that of the thermistor(A2) in 2 minutes (Y=A2-A1)
- For 2 minute the variance of temperature increases more than 4.5℃(0.2148V) "course led 6ea on cold/60℃ led on" message is displayed on the panel.

④ At this time heater, Error "course led 6ea on cold/60℃ led on" is displayed and all working process off

⑤ The heater operating continues during heating hours, if washing hour is left over, the residual washing process keeps going without heating.

5. Main function

6) Fuzzy washing function (weight-sensing)

☞ After finishing initial water supply, when the fall of the water level needs supplementary water supply, Sensing function perceives the weght with the supplementary water supply numbers and starts to work. Under the course of Cotton, if the supplementary water supply numbers become 3 - 4 times the function is going at default condition (high water level), if 1-2 below that is going at middle level, if 0 below low water level, heating hours and rinse hours depend on the above data.

	Washing hours	Rinse water level
	Cotton	
High	Default	Default
Middle	Default-12 min	22.80KHZ
Low	Default-25 min	23.30KHZ

※After sensing weight, above hours is decreased from above default hours

7) Bubble -detecting function

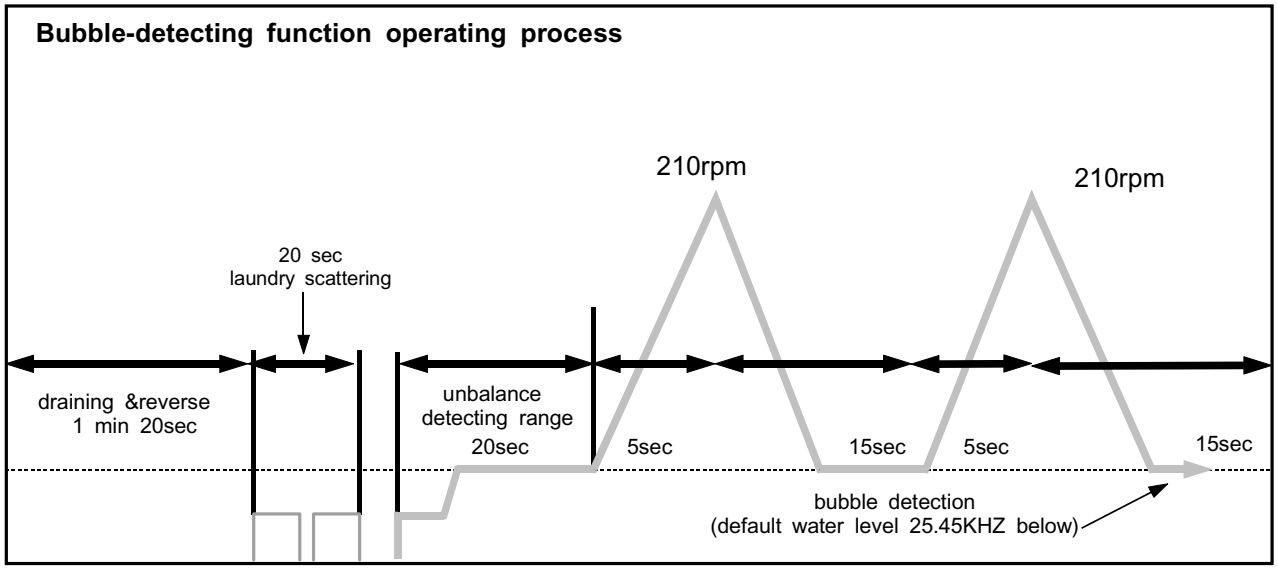
At the each condition of washing&dehydrating , rinse&dehydrating , hydrating, bubble -detecting function works, this function works 5times normally, if the function detects bubbles at 6 times , the bubble-detecting function stops and go on to the next process.

● The bubble-detecting function during washing & dehydrating to rinse & dehydrating after 2 times instant dehydrating and before main dehydrating, if the water level is under 25.45KHZ, Bubble

→ Detecting function thinks there are bubbles and add the bubbles-removing rinse, needing hours are above hours and 6 min 40 sec.

→ The bubble-detecting function during single hydrating process after 2 times instant dehydrating and before main dehydrating , if the water level is 25.45KHZ below or during main dehydrating, water level data is 23.80KHZ below Bubble-detecting function thinks there are bubbles and add the bubbles-removing rinse 1 times, needing hours are above hours and 5 min 50 sec.

Bubble-detecting function operating process



5. Main function

8) Unbalance detecting & laundry balance positioning system

① Just before the hydrating process and just after reversal rotation for balancing laundry position, this function is carried out

② The initial 6 sec is the period of reversal rotation for balancing laundry position , Drum rotates 50rpm for initial 6 sec

③ Next 10 sec, the rotation increases the speed from 50 rpm to 90 rpm slowly

④ During the next 18 sec, drum rotates at the speed of 90 rpm, the sensor decides the degree of laundry unbalance with TACHO data which is attached to motor

⑤ If the degree of unbalanced laundry is over 6 times to default value, laundry balancing system carryies out feed back process 6 times

6. Technical point

1) Motor on/off time at each course

unit:sec

Course	Washing				Rinse				Motor r.p.m
	Cw	Off	Ccw	Off	Cw	Off	Ccw	Off	
Cotton	13	3	13	3	10	5	10	5	50
Synthetics	7	8	7	8	7	8	7	8	40
Delicates	5	10	5	10	5	10	5	10	30
Quick	12	3	12	3	10	5	10	5	45

2) Final dehydrating r.p.m at each course

unit:rpm

Model / Course	S821	S621
Cotton	800	600
Synthetics	800	600
Delicates	600	600
Quick	800	600

※ You can change the r.p.m to the above a table by use spin button under no spin situation.

6. Technical point

3) The water level data at each course

unit:Khz

Course \ Water level		Default water level(khz)		Supplemetary water START(Khz)	Supplemetary water end(khz)
Cotton	Washing	23.50		24.00	23.70
	Rinse	large	22.45	24.00	23.50
		middle	22.80		
		small	23.30		
Synthetics	Washing	23.50		24.00	23.70
	Rinse	22.45		24.00	23.50
Delicates	Washing	22.80		23.55	23.35
	Rinse	22.65		23.55	23.35
Quick	Washing	23.50		24.00	23.70
	Rinse	22.45		24.00	23.50

4) The other water level data

The water data unter each conditon		
1st water supply (only preparation)	24.60	1st water supply level to washing tub
Overflow error	20.50	The water supplied reach 2/3 of door
Bubble detectingatwashing/rinse/dehydrating	25.45	Bubble -detecting water level
Bubble detecting rinse water level	22.00	The water level which can detect bubblesunit:Khz
Water level which can open door	23.80 over	It is possible to open the door
Water level which can drive heater	24.50	Safety water level of wash heater
Water level which can reset the drain	24.50	The water level can be detected after 1st draining

※ If water level is 15KHZ below or 30 KHZ above , sensor-pressur is out of order so needs changing.